

In the Claims

Listing of the Claims

This listing of claims will replace all prior versions, and listings, of the claims in the application.

1. (Original) A biodegradable segmented block copolymer comprising polyol residues in that the polyol residues have a molecular weight of at least 4000 Daltons and in that the polyol residues are connected by acetal linkages.
2. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in~~ of claim 1 in which the acetal linkages comprise polyacetal residues.
3. (Currently Amended) ~~A The biodegradable segmented block copolymer as~~ ~~claimed in~~ of claim 2 in which the polyacetal residues comprise enzyme degradable polyacetal/diamino acid ester blocks.
4. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in~~ of claim 2 in which the polyacetal residues comprise an incorporated bioactive diol.
5. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in~~ of claim 2 in which the polyacetal residues comprise both enzyme degradable polyacetal/diamino acid ester blocks and incorporated bioactive agent.
6. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in~~ ~~any one of claims 1 to 5~~ of claim 1 in which the segmented block copolymer is blended with other polymeric and/or ceramic and/or glass material.

7. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in any of the claims 1 to 6 of claim 1~~ in which the polyol residues have a molecular weight of at least 5000 Daltons.
8. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in any one of claims 1 to 6 of claim 1~~ in which the polyol residues have a molecular weight between 4000 and 20000 Daltons.
9. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in any preceding of claim 1~~ in which polyol residues comprise polyesters.
10. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in of claim 9~~ in which the polyester is chosen from the group: homo-polymers of polycaprolactone (PCL), copolymers of polycaprolactone (PCL), polylactic acid (PLA, L and D forms), polyglycolic acid (PGA), polydioxanone, aliphatic esters or aromatic ester.
11. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in any one of claims 1 to 8 of claim 1~~ in which the polyol comprises a degradable carbonate.
12. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in any one of claims 1 to 8 of claim 1~~ in which the polyol residues comprise polyamide.
13. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in any one of claims 1 to 8 of claim 1~~ in which the biodegradable segmented block copolymer comprises a compound from the group: polyglycolic acid (PGA), polycaprolactone (PCL) or polylactic acid (PLA).

14. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in~~
~~any one of claims 1 to 8 of claim 1~~ in which the biodegradable segmented block
copolymer comprises a biocompatible inorganic material.
15. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in~~
~~of claim 14~~ in which the biocompatible inorganic material is selected from the group
consisting of: calcium carbonate, hydroxyapatite (HA) or tricalcium phosphate (TCP).
16. (Currently Amended) A biodegradable segmented block copolymer ~~as claimed in any~~
~~preceding of claim 1~~ in which the polyol residue comprises polyesters with a melting
point between about 50°C and 80°C.
17. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in~~
~~any preceding of claim 1~~ in which a stabilizer or accelerator is blended into or
polymerized into the biodegradable segmented block copolymer.
18. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in~~
~~any one of claims 1 to 5 of claim 1~~ in which the segmented block copolymer
comprises whether blended in or reacted with or other, a biological active agent.
19. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in~~
~~of claim 18~~ wherein said agent is selected from the group consisting of a growth
factor, an antibiotic, a strontium salt, a fluoride salt, a magnesium salt, a sodium salt,
a bone morphogenetic factor, a chemotherapeutic agent, a pain killer, a
bisphosphonate, a bone growth agent, an angiogenic factor, and combinations thereof.
20. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in~~
~~of claim 19~~ wherein said growth factor is selected from the group consisting of
platelet derived growth factor (PDGF), transforming growth factor b (TGF-b), insulin-

related growth factor-I (IGF-I), insulin-related growth factor-II (IGF-II), fibroblast growth factor (FGF), beta-2-microglobulin (BDGF II), bone morphogenetic protein (BMP), and combinations thereof.

21. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in~~ of claim 19 wherein said antibiotic is selected from the group consisting of tetracycline hydrochloride, vancomycin, cephalosporins, and aminoglycosides such as tobramycin, gentacin, and combinations thereof.
22. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in~~ of claim 19 wherein said growth is selected from the group consisting of proteins of demineralised bone, demineralised bone matrix (DBM), bone protein (BO), bone morphogenetic protein (BMP), osteonectin, osteocalcin, osteogenin, and combinations thereof.
23. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in~~ of claim 19 wherein said agent is selected from the group consisting of cisplatinum, ifosfamide, methotrexate, doxorubicin hydrochloride, and combinations thereof.
24. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in~~ of claim 19 wherein said pain killer is selected from the group consisting of lidocaine hydrochloride, bipivacain hydrochloride, non-steroidal anti-inflammatory drugs such as ketorolac tromethamine, and combinations thereof.
25. (Currently Amended) ~~A The biodegradable segmented block copolymer as claimed in~~ any one of the preceding claims of claim 1 in which the biodegradable segmented block copolymer is reinforced with a reinforcing material.

26. (Currently Amended) A The biodegradable segmented block copolymer as ~~claimed in~~ of claim 25 in which the reinforcing material is a polymer filler particulate.
27. (Currently Amended) A The biodegradable segmented block copolymer as ~~claimed in~~ of claim 25 in which the reinforcing material is a fibre. (~~eg continuous fibre, short fibre or other~~).
28. (Currently Amended) A The biodegradable segmented block copolymer as ~~claimed in~~ any one of the preceding claims of claim 1 in which the biodegradable segmented block copolymer is a coating on a medical device ~~eg. nail, screw or boneplate, anchor, suture.~~
29. (Currently Amended) A The biodegradable segmented block copolymer as ~~claimed in~~ any one of claims of claim 1 to 27 in which the biodegradable segmented block copolymer forms in whole, or part, a medical device ~~e.g. nail, screw, suture, boneplate or other.~~
30. (Currently Amended) A medical device comprising a the biodegradable segmented block copolymer as ~~claimed in any one of claims claim 1 to 27.~~
31. (Currently Amended) A method of manufacture of a medical device comprising the step forming *in situ* a the biodegradable segmented block copolymer as ~~claimed in any one of claims claim 1 to 27.~~